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Scientific Note

GNATHAMITERMES PERPLEXUS (BANKS) (ISOPTERA: TERMITIDAE): A NUISANCE STRUCTURAL TERMITE PEST IN SOUTHERN CALIFORNIA

The genus *Gnathamitermes* Light consists of four species (Weesner, F. M. 1970. Biology of termites. Academic Press, New York. Vol. 2). These termites are primarily of a southern Nearctic distribution and they occur largely in the southwestern United States and portions of Mexico. Two species, *Gnathamitermes perplexus* (Light) and *Gnathamitermes nigriceps* (Light) were described from specimens taken in western Mexico (Light, S. F. 1930. Univ. Cal. Pub. Ent., 5: 175–214). *Gnathamitermes tubiformans* (Buckley) occurs in the arid and semiarid regions of New Mexico, Texas, Arizona, and northern Mexico (Snyder, T. E. 1949. Smithsonian Misc. Coll., 112; Allen, C. T., D. E. Foster & D. N. Ueckert. 1980. Environ. Entomol., 9: 461–466). *Gnathamitermes perplexus* (Banks) occurs in southern California, Nevada, Arizona, and Texas. In southern California, it occurs

Figure 1. Surface scarification of wood caused by *Gnathamitermes perplexus.*

in the coastal areas of San Diego County and inland in the arid and semiarid desert regions of the southern portions of the state.

Gnathamitermes tubiformans has received attention because of its supposed conflict with man in rangeland management for cattle production (Bodine, M. C. & D. N. Ueckert. 1975. J. Range. Mgmt., 28: 353–358; Ueckert, D. N., M. C. Bodine & B. M. Spears. 1976. Ecology, 57: 1273–1280; Allen, C. T., D. E. Foster & D. N. Ueckert. 1980; Schaefer, D. A. & W. G. Whitford. 1981. Oecologia, 48: 277–283). Ecologists have attempted to assess its role in energy flow, nutrient turnover, and nutrient cycling in desert ecosystems (Johnson, K. A. & W. G. Whitford. 1975. Environ. Ent., 4: 66–70; Schaefer, D. A. & W. G. Whitford. 1979. Bull. Ecol. Soc. Amer., 60: 128; Schaefer & Whitford 1981).

Ecological data on the distribution, foraging behavior, and food preference of *G. perplexus* are presented elsewhere (Light 1930; Light, S. F. 1934. Termites and termite control. Univ. Cal. Press, Berkeley, CA; Weesner 1970; Haverty, M. I. & W. L. Nutting. 1975. Ann. Ent. Soc. Amer., 68: 533–536; Haverty, M. I. & W. L. Nutting. 1975. Environ. Ent., 4: 480–486). *Gnathamitermes* spp. were not known to attack structures and they were considered to have no structural economic significance (Light 1930, 1934).

On 26 Oct 1990, *G. perplexus* was found within a structure on Kalmia Street, Murrieta, California where it created a nuisance problem and caused superficial aesthetic damage. On 27 Sep 1994, it was discovered within a structure on west Franklin Street, Lake Elsinore, California. At this location, *G. perplexus* caused appreciable superficial scarification and aesthetic damage to baseboards, wallpaper, drywall, ceiling tiles, and door frame moldings (Fig. 1).

Both of these infestations were of such intensity and persistence that it took one complete subterranean termite treatment and several retreatments per property to control them.

Gnathamitermes spp. were not previously reported to cause aesthetic damage within structures. The two incidences reported here involving *G. perplexus* represent the first cases of a species of this genus entering structures and causing nuisance problems and aesthetic damage.

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